

Atlantic Wind Test Site

Wind-Diesel Activities

15th AWEA-CanWEA Wind Diesel Workshop
Anchorage, AK

Presented by: Malcolm Lodge, P.Eng.,
for
Atlantic Wind Test Site, North Cape, PE

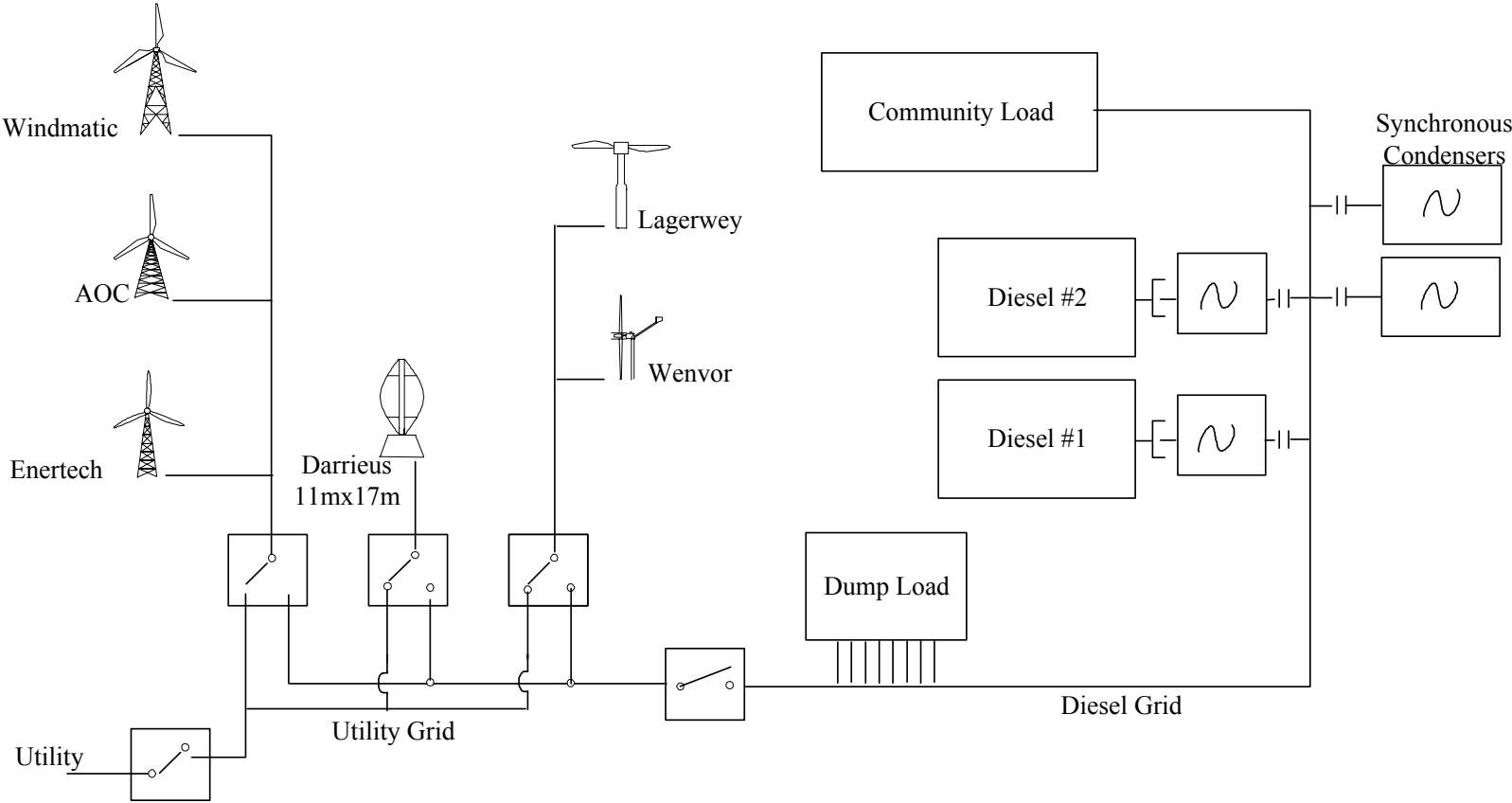
Atlantic Wind Test Site

North Cape Prince Edward Island



- Wind-Diesel continues to be key component of Canadian R&D
- A WTS active in NRCan sponsored R&D for >10 years
 - Establishment and operation of W-D Test Bed
 - Collaboration with utilities
 - Internal R&D
- Recent efforts have resulted in WDICS

AWTS Wind-Diesel Test Bed



WDICS

(Wind-Diesel Integrated Control System)

- Integrates control and operation of wind-diesel systems
- Greatly increases control flexibility
- Can be used with low or high penetration W-D Systems
- Can be used with different levels of integration
 - Full Integration for new plants
 - Limited Integration for retrofits

WDICS Status

- Fully tested on AWTs Test Bed
- Demonstration project underway in India
 - Phase 1 completed Feb'02
 - Phase 2 expected early 2003
- Commercialization efforts underway
- Attempting to develop demo project in Canada

Sagar Island, India

- Phase 1 completed Feb'02
 - WDICs
 - 2 AOC 15/50 wind turbines
 - 2, 150 kW diesel gen-sets
- Phase 2 anticipated for Feb'03
 - 8 AOC 15/50 wind turbines
 - Autonomous diesel package

Sagar Island

- 100 km south of Calcutta
- 130,000 people
- Total present generating capacity – 750 kW
- Electricity to 1 of 3 villages, 5 hours/day
- Wind energy resource - poor
- Other energy resources - very poor

Special considerations - Sagar

- Extremely remote
- Logistics difficult
 - Limited equipment available
 - Access difficult, distant, foreign and expensive
- Staff likely limited in ability
- Language and customs concerns
- Significant technology difference from North America

Sagar Island – WDICS Scope of Supply

- System Master PLC
- Wind Plant Master PLC
- Wind turbine communication interface
- Industrial computer based SCADA – GE Fanuc “FXView”
- Frequency regulator micro-controller based
- Air cooled dump load

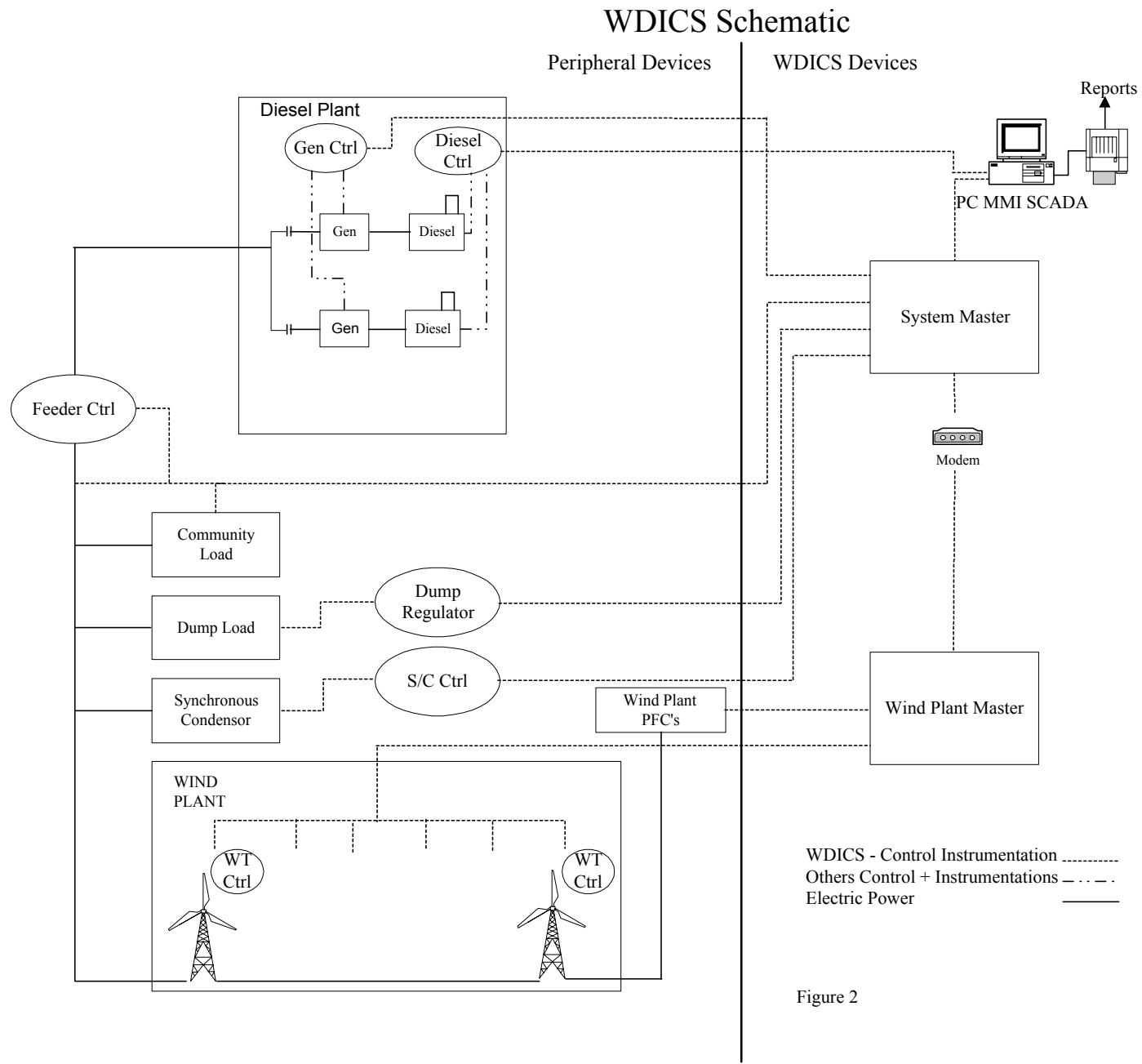
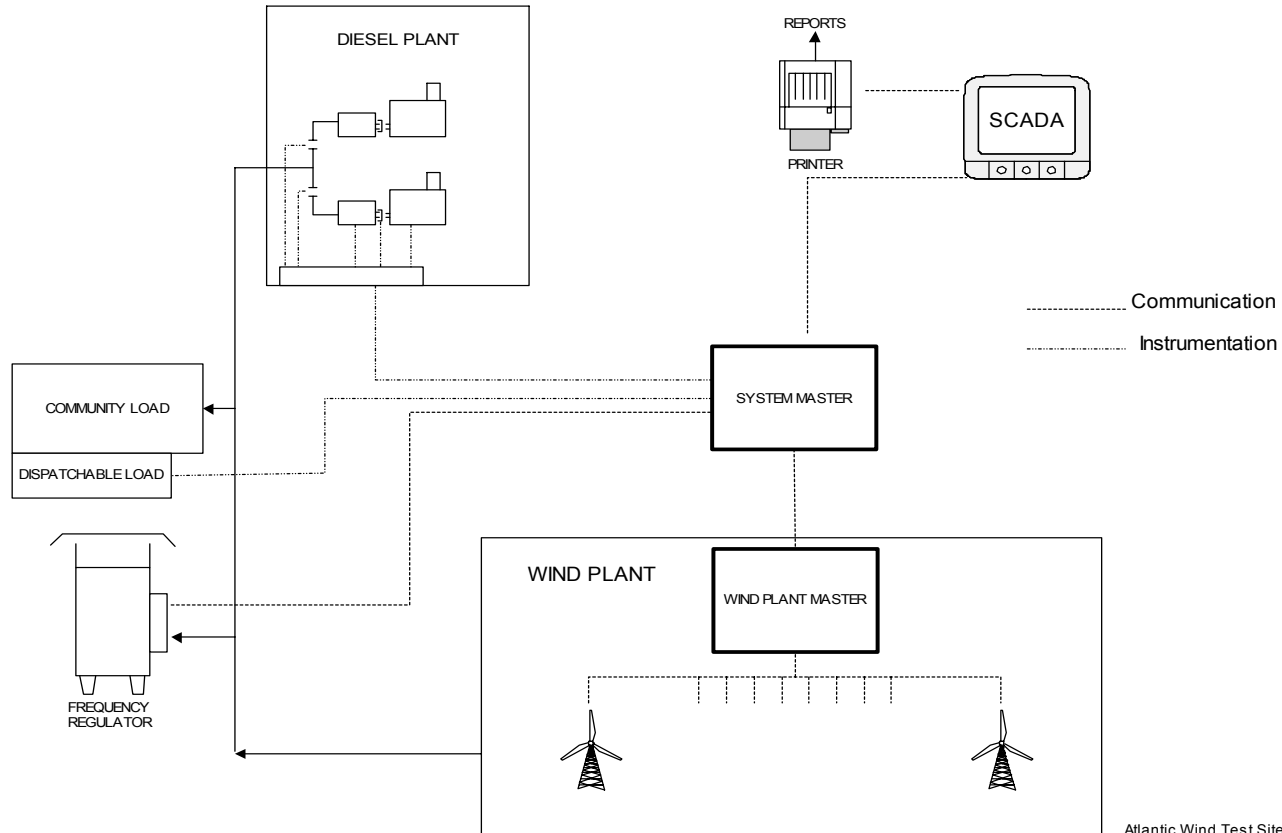


Figure 2

Sagar Island System

SAGAR ISLAND WDICS



Atlantic Wind Test Site Inc.
North Cape, PEI
C0B 2B0 Canada
WDICS 1/3

